

SMART ALTERNATOR

G TYPE with CAN Communications



This alternator has a specially wound stator to achieve high power output in a small, low weight package. High current diodes are used in the rectifier and internal fans provide forced air cooling. The output is controlled by a regulator inside the alternator and is configurable over the CAN interface. The units are assembled with stiff brush springs and extra flexible wire to connect the stator to the rectifier.

The stator is pegged to the body and all screws are locked. High quality bearings are used to enable the alternators to run at high speeds (up to 18,000rpm). The standard mounting method is intended for a belt drive, but the alternator may also be driven directly, if required.

Electrical

- Output voltage 14.3V DC default, configurable over range 11V to 16V DC
- Nominal output current at 10,000 RPM at 13.3V, see performance chart

A detailed performance chart is shown on the next page

Mechanical

- Weight <3.2kg
- Aluminium alloy body
- Billet aluminium rear cover
- Maximum speed 18,000rpm
- Strapped rectifier

Design and manufacture is in-house, so if our existing designs do not suit your application, we can provide cost effective customised parts to suit even the most demanding application. Please contact our technical consultancy service who will be pleased to help.

CAN Communications Interface

- Voltage set point configuration
- On/Off control
- Diagnostic information, including:
 - Regulator and Rectifier Temperatures
 - Output Voltage Measurement
 - Over-Current Warning
 - RPM measurement

Connection Definition

- 22AWG un-screened cable
- Viton jacketed cable
- Positive power output M8 stud (B+ terminal)
- Ground connection for power and regulator is through the case. Ensure that the case has a high current, low resistance connection to vehicle ground
- Cable Connection

Pin 1	Green wire	Ignition
Pin 2	Red wire	Sense
Pin 3	White wire	Lamp
Pin 4	Yellow	CAN+
Pin 5	Blue	CAN-
- Alternative connection details: Ignition and sense connections are through the power output stud (B+ terminal), no lamp connection, CAN as above.

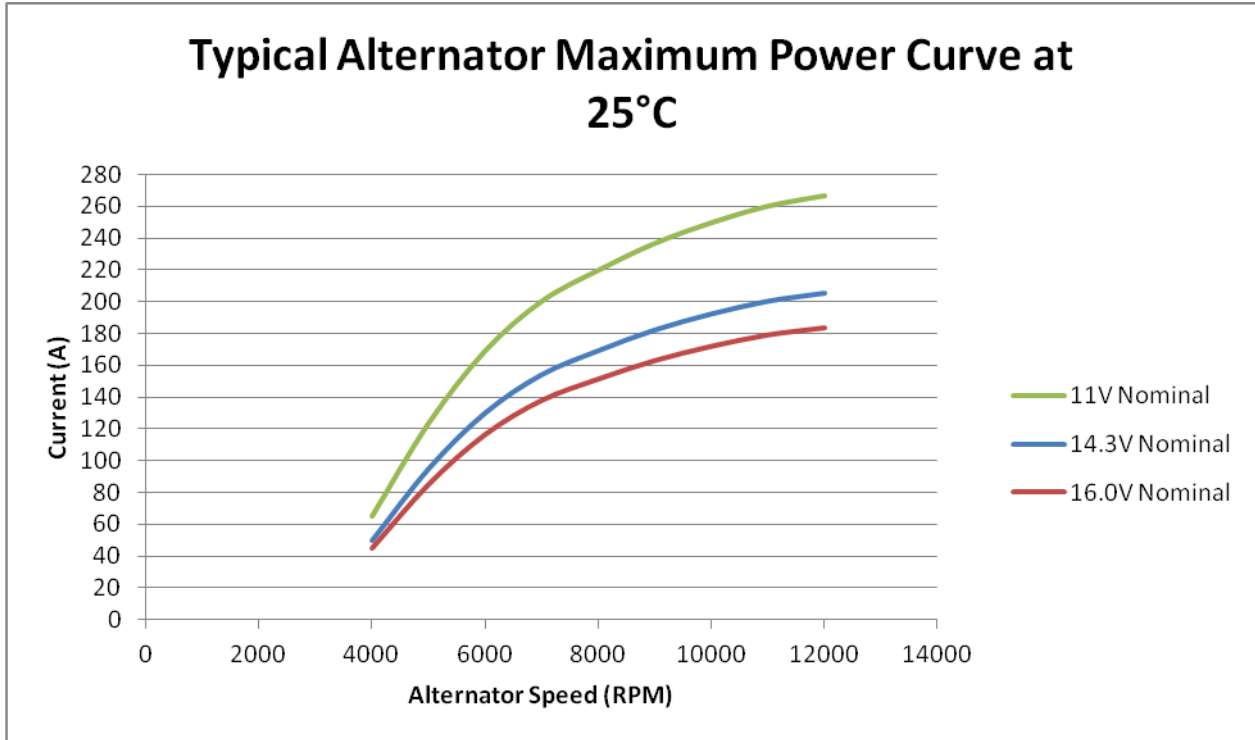
Environmental

- Splash resistant to standard motorsport fluids
- Continuous ambient operating temperature -30 to +90°C
- Maximum ambient temperature 110°C short term. Providing the following temperatures are not exceeded:

Stator	200°C
Diodes	175°C
Regulator	105°C
Bearings	150°C

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G TYPE 180A with CAN Communications



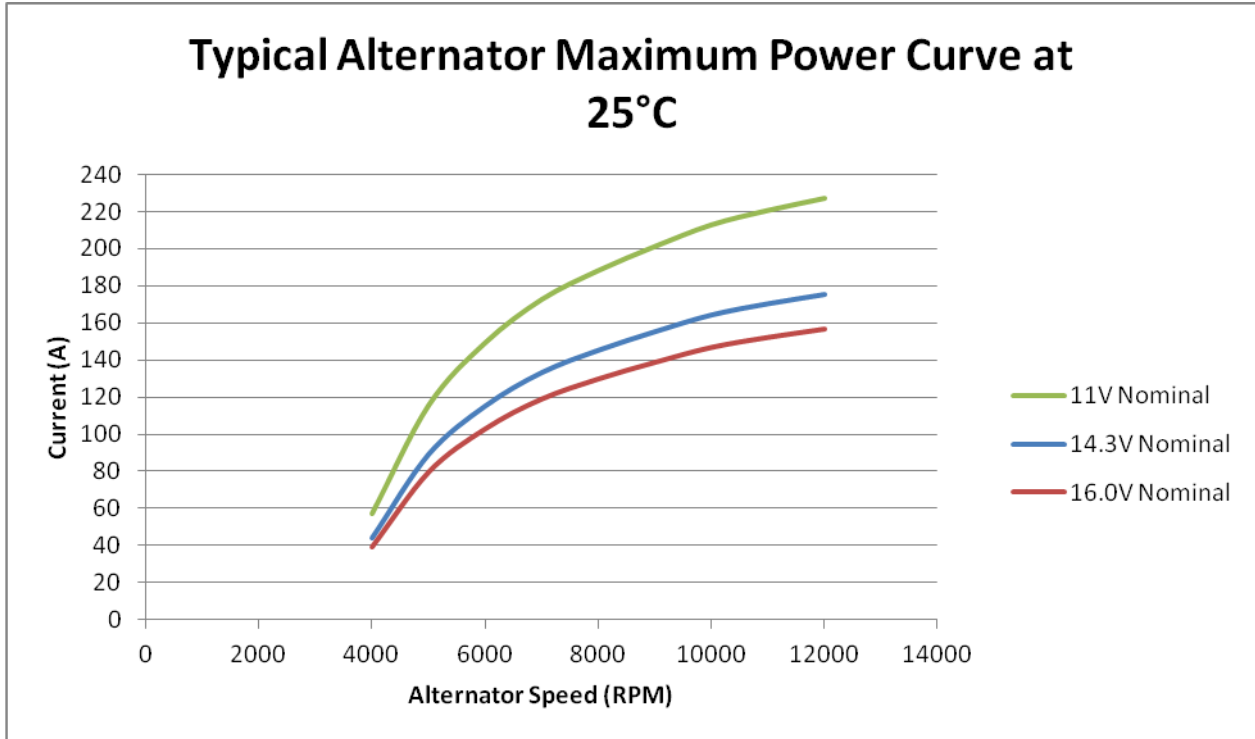
Output Voltage		Typical Maximum Output (Amps)		
		11V ¹	14.3V	16V ¹
Cut In Speed (RPM)		<4000		
Speed RPM	4000	65	50	45
	5000	124	95	85
	6000	169	130	116
	7000	200	154	138
	8000	220	169	151
	9000	237	182	163
	10000	250	192	172
	11000	260	200	179
	12000	267	205	183

McLaren Applied Technologies can service and repair alternators.
Please contact our technical consultancy service for more information.

¹ The current at 11V and 16V are calculated values.

SMART ALTERNATOR

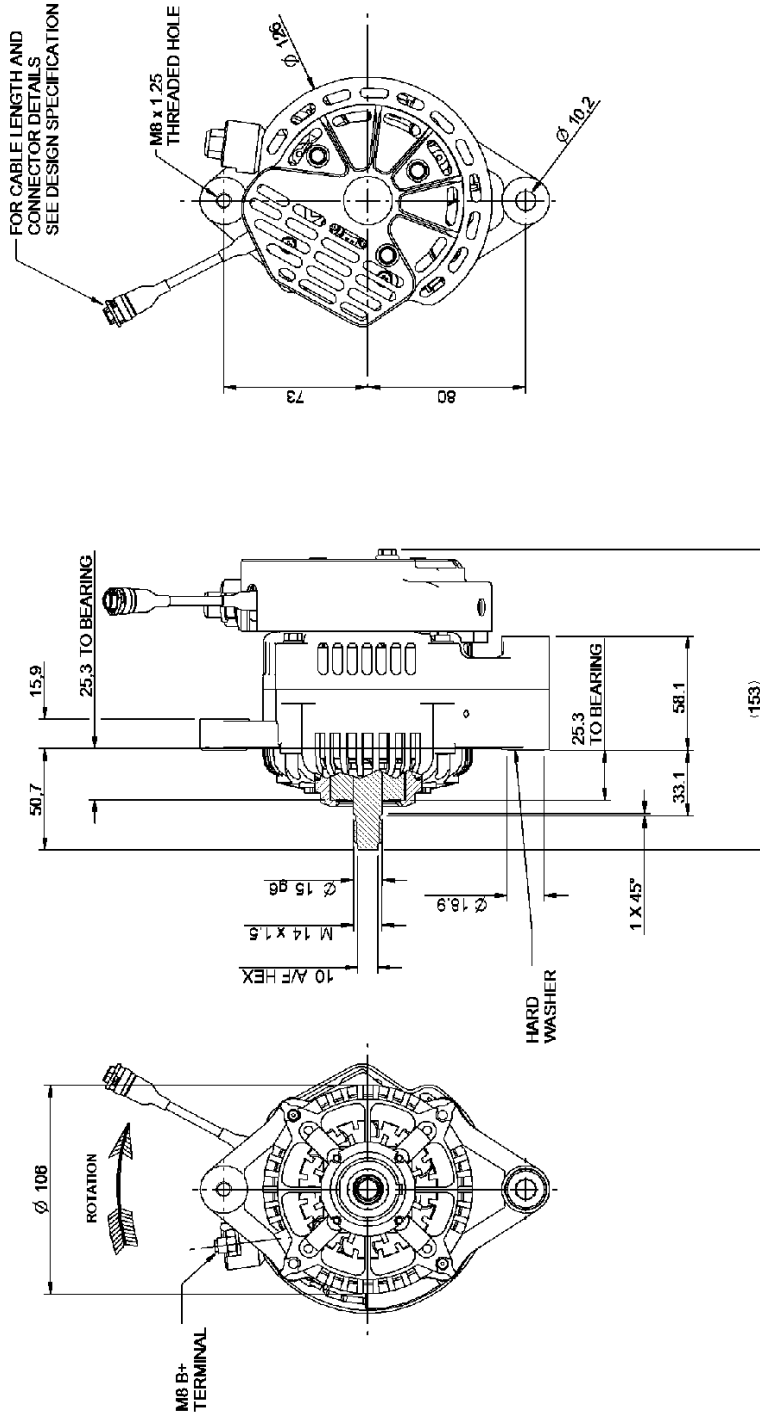
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Output Voltage		Typical Maximum Output (Amps)		
		11V ²	14.3V	16V ²
Cut In Speed (RPM)		<3500		
Speed RPM	4000	57	44	39
	5000	116	89	80
	6000	150	115	103
	7000	173	133	119
	8000	189	145	130
	9000	202	155	139
	10000	213	164	147
	11000	221	170	152
	12000	228	175	156

² The currents at 11V and 16V are calculated values.

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Output	Rotation	Cable Length	Connector	Order Code
180A	Clockwise	1000mm	n/a	O 030 650 034 000
140A	Clockwise	1000mm	n/a	O 030 650 034 001
140A	Anti-clockwise	1000mm	n/a	O 030 650 034 005
180A	Anti-clockwise	1000mm	n/a	O 030 650 034 006
140A	Clockwise	250mm	ASL6-06-05-PN	O 030 650 034 007
180A	Clockwise	250mm	ASL6-06-05-PN	O 030 650 034 008